



MATERIAL SAFETY DATA SHEET

PRODUCT

SH357 SOLN BATCH TP-1

SAFETY HEALTH AND
ENVIRONMENTAL AFFAIRS
JUN 24 1991

Emergency Telephone Number

Medical (708) 920-1510 (24 hours)

SECTION 1 PRODUCT IDENTIFICATION

TRADE NAME: SH357 SOLN BATCH TP-1

DESCRIPTION: TP-1, aqueous solution of nitric acid, ammonium molybdate and bismuth nitrate

NFPA 704M/HMIS RATING: 3/3 HEALTH 0/0 FLAMMABILITY 0/0 REACTIVITY 0 OTHER
0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

SECTION 2 HAZARDOUS INGREDIENTS

Our hazard evaluation has identified the following chemical ingredient(s) as hazardous under OSHA's Hazard Communication Rule, 29 CFR 1910.1200. Consult Section 14 for the nature of the hazard(s).

INGREDIENT(S)	CAS #	APPROX. %
Nitric acid	7697-37-2	25
Ammonium molybdate	12027-67-7	1

SECTION 3 PRECAUTIONARY LABEL INFORMATION

WARNING: Causes burns to skin and eyes. Do not get in eyes, on skin or on clothing. Avoid breathing vapors. Do not take internally.

SECTION 4 FIRST AID INFORMATION

EYES: Immediately flush for at least 15 minutes while holding eyelids open. Call a physician at once.

SKIN: Immediately flush with water for at least 15 minutes. For a large splash, flood body under a shower. Call a physician at once.

INGESTION: Do not induce vomiting. Give water. Call a physician.

NOTE TO PHYSICIAN: No specific antidote is known. Based on the individual reactions of the patient, the physician's judgment should be used to control symptoms and clinical condition.

CAUTION: If unconscious, having trouble breathing or in convulsions, do not induce vomiting or give water.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage. Measures against circulatory shock, respiratory depression and convulsions may be needed.



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SECTION 5 HEALTH EFFECTS INFORMATION

PRIMARY ROUTE(S) OF EXPOSURE: Eye, Skin, Inhalation

EYE CONTACT: Corrosive to the eyes with possible permanent damage depending on the length of exposure and on the first aid action given.

SKIN CONTACT: Corrosive to the skin, possibly resulting in third degree burns depending on the length of exposure and on the first aid action given.

INGESTION: Can be harmful.

INHALATION: Can be corrosive to the mucous membranes and the lungs.

SYMPTOMS OF EXPOSURE: A review of available data does not identify any symptoms from exposure.

AGGRAVATION OF EXISTING CONDITIONS: A review of available data does not identify any worsening of existing conditions.

SECTION 6 TOXICOLOGY INFORMATION

ACUTE TOXICITY STUDIES: No toxicity studies have been conducted on this product.

SECTION 7 PHYSICAL AND CHEMICAL PROPERTIES

COLOR: Colorless	FORM: Liquid	ODOR: None
SOLUBILITY IN WATER:	Completely	
pH (NEAT) =	Less than 1	ASTM E-70
FLASH POINT:	None	

NOTE: These physical properties are typical values for this product.

SECTION 8 FIRE AND EXPLOSION INFORMATION

FLASH POINT: None

EXTINGUISHING MEDIA: Not applicable

UNUSUAL FIRE AND EXPLOSION HAZARD: Contact with reactive metals (e.g. aluminum) may result in the generation of flammable hydrogen gas.

SECTION 9 REACTIVITY INFORMATION

INCOMPATIBILITY: Avoid contact with organic materials (eg. rags, sawdust, hydrocarbon oils or solvents) and avoid reducing agents (eg.



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SECTION 9 REACTIVITY INFORMATION

(CONTINUED)

hydrazine, sulfites, sulfides, aluminum or magnesium dust) which can generate heat, fires, explosions and the release of toxic fumes.

Avoid alkaline materials (eg. ammonia and its solutions, carbonates, sodium hydroxide (caustic), potassium hydroxide, calcium hydroxide (lime), cyanides, sulfides, hypochlorites, chlorites) which can generate heat with splattering or boiling and the release of toxic fumes.

THERMAL DECOMPOSITION PRODUCTS: In the event of combustion NOx may be formed. Do not breathe smoke or fumes. Wear suitable protective equipment.

SECTION 10 PERSONAL PROTECTION EQUIPMENT

RESPIRATORY PROTECTION: If it is possible to generate significant levels of vapors or mists, a NIOSH approved or equivalent respirator is recommended.

VENTILATION: General ventilation is recommended.

PROTECTIVE EQUIPMENT: Wear apron and chemical splash goggles.

The availability of an eye wash fountain and safety shower is recommended.

If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse.

SECTION 11 SPILL AND DISPOSAL INFORMATION

IN CASE OF TRANSPORTATION ACCIDENTS, CALL THE FOLLOWING 24-HOUR TELEPHONE NUMBER (708-920-1510)

SPILL CONTROL AND RECOVERY:

Cover the contaminated surface with sodium bicarbonate or a soda ash-slaked lime mixture. Mix and add water if necessary to form a slurry. Scoop up slurry and wash down the drain with excess water.

DISPOSAL: If this product becomes a waste, it meets the criteria of a hazardous waste as defined under the Resources Conservation and Recovery Act (RCRA) 40 CFR 261. Hazardous Waste D002.

Acid solutions should be neutralized before being discharged to a sanitary sewer. Alternatively, an acid solution may be disposed into a waste treatment plant which has a pH control system in operation.



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SECTION 11 SPILL AND DISPOSAL INFORMATION

(CONTINUED)

Empty product containers should be punctured, if plastic, and placed in the garbage collection container.

SECTION 12 ENVIRONMENTAL INFORMATION

If released into the environment, see CERCLA in Section 14.

SECTION 13 TRANSPORTATION INFORMATION

DOT PROPER SHIPPING NAME/HAZARD CODE - ACID, LIQUID, N.O.S.
CORROSIVE MATERIAL NA 1760
CONTAINS - NITRIC ACID

SECTION 14 REGULATORY INFORMATION

The following regulations apply to this product.

FEDERAL REGULATIONS:

OSHA'S HAZARD COMMUNICATION RULE, 29 CFR 1910.1200:

Based on our hazard evaluation, the following ingredients in this product are hazardous and the reasons are shown below.

Nitric acid - Corrosive

Nitric acid = TWA 2 ppm, STEL 4 ppm ACGIH/TLV
5 mg/m³, 10 mg/m³ ACGIH/TLV
Molybdenum (soluble, as Mo) = TWA 5 mg/m³ ACGIH/TLV

Nitric acid = TWA 2 ppm, STEL 4 ppm OSHA/PEL
5 mg/m³, 10 mg/m³ OSHA/PEL
Molybdenum (soluble, as Mo) = TWA 5 mg/m³ OSHA/PEL

CERCLA/SUPERFUND, 40 CFR 117, 302:

This product contains nitric acid, a Reportable Quantity (RQ) substance and if 4,000 pounds of product are released, it requires notification to the NATIONAL RESPONSE CENTER, WASHINGTON, D. C. (1-800-424-8802).

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986
(TITLE III) - SECTIONS 302, 311, 312 AND 313:

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355):

This product contains nitric acid, which is listed in Appendix A and B as an Extremely Hazardous Substance. The statutory threshold planning quantity for



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SECTION 14 REGULATORY INFORMATION

(CONTINUED)

this substance is 1,000 pounds.

A release of 4,000 pounds of product will require a notification to your State Emergency Response Commission.

You may also be required to notify the NATIONAL RESPONSE CENTER

- See CERCLA/SUPERFUND, above.

SECTIONS 311 and 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370):

Our hazard evaluation has found this product to be hazardous. The product should be reported under the following EPA hazard categories:

- XX Immediate (acute) health hazard
- Delayed (chronic) health hazard
- Fire hazard
- Sudden release of pressure hazard
- Reactive hazard

Under Section 311, submittal of MSDS's or a list of product names to the local emergency planning commission, state emergency response commission and local fire department is required after October 17, 1987 if you have:

- 10,000 pounds or more of a hazardous substance, or
- 500 pounds or the threshold planning quantity, whichever is less, of an extremely hazardous substance.

After October 17, 1989, MSDS(s), or a list of product names for all hazardous substances between zero (0) and 10,000 pounds, not previously reported, must be submitted.

SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372):

This product contains the following ingredient(s), (with CAS # and % range) which appear(s) on the List of Toxic Chemicals.

Nitric acid	7697-37-2	25
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TOXIC SUBSTANCES CONTROL ACT (TSCA):

The chemical ingredients in this product are on the 8(b) Inventory List (40 CFR 710).

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA), 40 CFR 261 SUBPART C & D:

If this product becomes a waste, it does meet the criteria of a



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SECTION 14 REGULATORY INFORMATION

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hazardous waste as defined under RCRA 40 CFR 261 (consult Section 11).

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15
(formerly Sec. 307), 40 CFR 116 (formerly Sec. 311):

This product contains the following ingredients covered by the Clean Water Act:

Nitric acid - Section 311

CLEAN AIR ACT, 40 CFR 60, SECTION 111, 40 CFR 61, SECTION 112:

This product does not contain ingredients covered by the Clean Air Act.

STATE REGULATIONS:

CALIFORNIA PROPOSITION 65:

None of the chemicals on the current Proposition 65 list are known to be present in this product.

MICHIGAN CRITICAL MATERIALS:

This product does not contain ingredients listed on the Michigan Critical Materials Register.

STATE RIGHT TO KNOW LAWS:

Regulated in those states using the TLV for nitric acid, ammonium molybdate as a criteria for listing.

SECTION 15 ADDITIONAL INFORMATION

None

SECTION 16 USER'S RESPONSIBILITY

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to ensure safe workplace operations. Please consult your local sales representative for any further information.

SECTION 17 BIBLIOGRAPHY

ANNUAL REPORT ON CARCINOGENS, U.S. Department of Health and Human Services, Public Health Service, PB 33-135855, 1983.



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SECTION 17 BIBLIOGRAPHY

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Title 29 Code of Federal Regulations Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA).

THRESHOLD LIMIT VALUES FOR CHEMICAL SUBSTANCES AND PHYSICAL AGENTS IN THE WORKROOM ENVIRONMENT WITH INTENDED CHANGES, American Conference of Governmental Industrial Hygienists, OH.

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